

PROGRESS OF MEDICAL SCIENCE

PEDIATRICS

UNDER THE CHARGE OF
THOMPSON S. WESCOTT, M.D., AND ALVIN E. SIEGEL, M.D.,
OF PHILADELPHIA.

Recovery of Normal Weight in the Various Organs of Albino Rats on Refeeding after Underfeeding from Birth for Various Periods.—JACKSON and STEWART (*Am. Jour. Dis. Children*, May, 1919, No. 5, vol. xvii), in a comprehensive research on white rats, have shown some interesting points that may be of great value when applied to the infant, insufficiently nourished and under the proper regime brought to a normal state of nutrition. The data in this series brought out first that albino rats underfed from birth to three, six, or ten weeks of age, showed rapid growth in body weight upon ample refeeding. Body weights of from 25 to 75 gm. were apparently reached more rapidly in those refed after underfeeding to ten weeks of age than in those refed after underfeeding for shorter periods. The body length remained slightly above normal in the group refed to 25 gm. body weight, but appeared nearly normal in the others. The tail length and the weight of the head, limbs and trunk appeared nearly normal in all of the refed groups. As to the body systems the integument appeared subnormal in weight in the group refed to 25 gm., usually normal (or above) in the others. The ligamentous skeleton appeared nearly normal in all of the refed groups, but the cartilaginous skeleton (moist or dry) tended to be subnormal in weight. The musculature was nearly normal in weight, with a slight apparent deficit in the later refeeding periods. The visceral group, as a whole, and the remainder of the tissues showed no constant or significant variations in the findings in the refed group. The individual organs differed greatly in the extent to which they had recovered their normal weight, as compared with that in controls of the same body weight, in the various groups refed to a body weight of 25, 50 or 75 gms. after underfeeding from birth to three, six or ten weeks of age. The weights of the various organs in the refed rats were as follows: The hypophysis and suprarenal glands were apparently nearly normal in weight in all groups; likewise the heart, lungs and kidneys, excepting an apparent overweight of doubtful significance in the groups refed after underfeeding to ten weeks of age. The liver was

rather irregular in weight, but probably within the range of normal variation. The brain, spinal cord and thymus appeared almost constantly subnormal in weight in all of the test groups. The apparent loss in the pineal body was of somewhat uncertain significance. The thyroid gland appeared subnormal on refeeding to 25 and 50 gm. after underfeeding for three weeks; otherwise normal. The ovaries were irregular in weight, apparently subnormal in those refed after underfeeding for ten weeks. The epididymides appeared subnormal on refeeding to body weight of 75 gm. The empty stomach and intestines were usually above normal weight in the refed groups; the canal with contents appeared more nearly normal in weight. The length of the intestines were somewhat above normal on refeeding to 25 gm. body weight and nearly normal later. There was little change in the relative length of the large and of the small intestines. The eyeballs showed a slight overweight of doubtful significance. Two organs showed an apparent tendency to overcompensation growth in the earlier stages of refeeding, with later retardation. The spleen was greatly above normal weight at body weight of 25 gm. or 50 gm.; but was normal or subnormal at body weight of 75 gm. The testes showed a similar reaction, the apparent atrophy in later stages of refeeding being especially marked.

Factors Affecting the Antiscorbutic Value of Foods.—HESS and UNGER (*Am. Jour. Dis. Children*, April, 1919, No. 4, vol. xvii) discuss some advanced ideas in regards to scurvy and its causes and prevention. Many reports show that during the late war there was considerable scurvy among the troops of the various armies; least of all along the western front. The scurvy was mainly of the latent or subacute type, and influenced the character of some of the infectious diseases, and may well have been a factor in the congelations occurring among the soldiers in the trenches. It is evident also that scurvy prevailed among the civilian population to a degree far greater than in peace times. In infants the question of scurvy centers about the milk supply. An infant requires fully one pint of fresh raw milk daily to protect it from the disorder. If the milk is pasteurized, or stale or heated for a second time or rendered more sensitive to deterioration by means of an alkali—and particularly if more than one of these influences are in operation—more than a pint is needed. The fact that there is an inverse relationship between the amount of milk consumed and the tendency to scurvy shows that we are dealing with not an exogenous toxin, but argues in favor of the disorder being primarily a deficiency disease. Milk does not necessarily lose its antiscorbutic value in the course of drying. If it is dried rapidly, even at a temperature of about 240° F., it retains sufficient of the protective factor to have curative value, provided, naturally, that it was fresh at the time of drying. In considering the question of the destruction of this "vitamin" by heat or alkali, the duration of exposure to the detrimental influence is of the greatest importance. Babies fed on pasteurized milk should receive an antiscorbutic from the time that they are a few weeks of age, as there is no reason for allowing the negative balance of "vitamin" to continue for a longer period. A small amount of orange juice will answer the purpose, and is potent for a period after alkalization. Its value does not